

GOLDEN STAR

The logo for Golden Star, featuring a stylized eight-pointed star with a white center and gold points, positioned between the letters 'T' and 'R'.

Management's Discussion and Analysis

For the Three and Nine Months Ended September 30, 2018

TABLE OF CONTENTS

OVERVIEW OF GOLDEN STAR	5
SUMMARY OF OPERATING AND FINANCIAL RESULTS	5
OUTLOOK FOR 2018.....	9
CORPORATE DEVELOPMENTS.....	9
WASSA OPERATIONS.....	12
PRESTEA OPERATIONS.....	15
SUMMARIZED QUARTERLY FINANCIAL RESULTS.....	18
LIQUIDITY AND FINANCIAL CONDITION	18
LIQUIDITY OUTLOOK.....	18
TABLE OF CONTRACTUAL OBLIGATIONS.....	19
RELATED PARTY TRANSACTIONS	19
OFF-BALANCE SHEET ARRANGEMENTS	20
NON-GAAP FINANCIAL MEASURES	20
OUTSTANDING SHARE DATA.....	25
CRITICAL ACCOUNTING JUDGEMENTS, ESTIMATES AND ASSUMPTIONS	25
CHANGES IN ACCOUNTING POLICIES.....	25
FINANCIAL INSTRUMENTS	26
DISCLOSURES ABOUT RISKS	26
CONTROLS AND PROCEDURES	26
RISK FACTORS AND ADDITIONAL INFORMATION	27

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following management's discussion and analysis provides information that management believes is relevant to an assessment and understanding of the consolidated financial condition and results of operations of Golden Star Resources Ltd. and its subsidiaries ("Golden Star" or "the Company" or "we" or "our"). This Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") should be read in conjunction with the Company's condensed interim consolidated financial statements and related notes for the three and nine months ended September 30, 2018, which are prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"). This MD&A includes information available to, and is dated, October 31, 2018. Unless noted otherwise, all currency amounts are stated in U.S. dollars and all financial information presented in this MD&A is prepared in accordance with IFRS.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

This MD&A contains "forward-looking information" within the meaning of applicable Canadian securities laws and "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995, concerning the business, operations and financial performance and condition of Golden Star. Generally, forward-looking information and statements can be identified by the use of forward-looking terminology such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", "believes" or variations of such words and phrases (including negative or grammatical variations) or statements that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" or the negative connotation or grammatical variation thereof. Forward-looking information and statements in this MD&A include, but are not limited to, information or statements with respect to: production, cash operating costs and all-in sustaining costs estimates and guidance for 2018 on a consolidated basis; the Company's achievement of 2018 consolidated guidance; the range of consolidated gold production for 2018; the expected acceleration of drilling of Wassa's Inferred Mineral Resources along the B-shoot and F-shoot trends; the expansion of Wassa Underground's Inferred Resources due to step out drilling and the timing of the results of such drilling; the timing for the release of the drilling results at Wassa Underground, Prestea Underground, the Father Brown satellite deposit and South Gap; the timing for the use of proceeds of La Mancha's strategic investment and the allocation thereof among uses; the increased production rate at Wassa Underground; the timing of the completion of a drilling chamber at the West Reef; the ability of the Company to generate operating margins; Golden Star's ability to successfully pursue organic or external growth; the potential for Father Brown to be a second high grade ore supply for the Wassa processing plant; the growth of the Company into a best-in-class mid-tier gold producer; planned exploration and drilling at Wassa and Prestea; the mining rate and grade from Wassa and the timing for further delineating the B-Shoot and F-Shoot down plunge extensions at Wassa Underground; capital expenditures, including sustaining capital and development capital; the processing of stockpiled ore from the Prestea Open Pits; the improved performance of Prestea Underground due to strengthened mine sequence and adjusted mining operations; the anticipated ramp up of gold production at Prestea Underground during the fourth quarter of 2018; operating margins from Wassa Underground and Prestea Underground; severance charges in 2018; the Company's debt repayment obligations for 2018; the settlement of vested performance share units; rehabilitation obligations of the Company and provisions thereof, as well as the expected undiscounted cash flows for rehabilitation provisions; the sufficiency of cash available to support the Company's operations and mandatory expenditures for the next twelve months; the sufficiency of the Company's existing cash balance; working capital, debt repayments and requirements for additional capital; the use of the proceeds of the La Mancha private placement and the ability of the Company to unlock organic growth opportunities and/or participate in the consolidation of the African gold sector.

Forward-looking information and statements are made based upon certain assumptions and other important factors that, if untrue, could cause the actual results, performance or achievements of Golden Star to be materially different from future results, performance or achievements expressed or implied by such statements. Such statements and information are based on numerous assumptions regarding present and future business strategies and the environment in which Golden Star will operate in the future, including the price of gold, anticipated costs and ability to achieve goals. Certain important factors that could cause actual results, performances or achievements to differ materially from those set forth in the forward-looking information and statements include, among others, gold price volatility, discrepancies between actual and estimated production, mineral reserves and resources and metallurgical recoveries, mining operational and development risks, litigation risks, liquidity risks, suppliers suspending or denying delivery of products or services, regulatory restrictions (including environmental regulatory restrictions and liability), actions by governmental authorities (including changes in taxation), currency fluctuations, the speculative nature of gold exploration, the global economic climate, dilution, share price volatility, the availability of capital on reasonable terms or at all, local and community impacts and issues, results of pending or future feasibility studies, competition, loss of key employees, additional funding requirements and defective title to mineral claims or property. Although Golden Star has attempted to identify important factors that could cause actual results, performance or achievements to differ materially from those described in forward-looking information and statements, there may be other factors that cause actual results, performance or achievements not to be as anticipated, estimated or intended.

Forward-looking information and statements are subject to known and unknown risks, uncertainties and other important factors that may cause the actual results, performance or achievements of Golden Star to be materially different from those expressed or implied by such forward-looking information and statements, including but not limited to: risks related to international operations, including economic and political instability in foreign jurisdictions in which Golden Star operates; risks related to current global financial

conditions; actual results of current exploration activities; environmental risks; future prices of gold; possible variations in mineral reserves and mineral resources, grade or recovery rates; mine development and operating risks; an inability to obtain power for operations on favourable terms or at all; mining plant or equipment breakdowns or failures; an inability to obtain products or services for operations or mine development from vendors and suppliers on reasonable terms, including pricing, or at all; accidents, labor disputes and other risks of the mining industry; delays in obtaining governmental approvals or financing or in the completion of development or construction activities; risks related to indebtedness and the service of such indebtedness, as well as those factors discussed in the section entitled “Risk Factors” in Golden Star's Annual Information Form for the year ended December 31, 2017. Although Golden Star has attempted to identify important factors that could cause actual results, performances and achievements to differ materially from those contained in forward-looking information and statements, there may be other factors that cause results, performance and achievements not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results, performance, and achievements and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking information and statements. Forward-looking information and statements are made as of the date hereof and accordingly are subject to change after such date. Except as otherwise indicated by Golden Star, these statements do not reflect the potential impact of any non-recurring or other special items or of any dispositions, monetizations, mergers, acquisitions, other business combinations or other transactions that may be announced or that may occur after the date hereof. Forward-looking information and statements are provided for the purpose of providing information about management's current expectations and plans and allowing investors and others to get a better understanding of the Company's operating environment. Golden Star does not undertake to update any forward-looking information and statements that are included in this MD&A, except as required by applicable securities laws.

CAUTIONARY NOTE REGARDING RESERVES AND RESOURCES

Scientific and technical information contained in this MD&A was reviewed and approved by Dr. Martin Raffield, Senior Vice-President, Technical Services for Golden Star who is a “qualified person” as defined by National Instrument 43-101 - Standards of Disclosure for Mineral Projects (“NI 43-101”) and by S. Mitchel Wasel, BSc Geology who is a Qualified Person pursuant to NI 43-101. Mr. Wasel is Vice President Exploration for Golden Star and an active member of the Australasian Institute of Mining and Metallurgy. All mineral reserves and mineral resources have been calculated in accordance with the standards of the Canadian Institute of Mining, Metallurgy and Petroleum (“CIM”) and in compliance with the requirements of NI 43-101. All mineral resources are reported inclusive of mineral reserves. Mineral resources which are not mineral reserves do not have demonstrated economic viability. Information on data verification performed on, and other scientific and technical information relating to, the mineral properties mentioned in this MD&A that are considered to be material mineral properties of the Company are contained in Golden Star's Annual Information Form for the year ended December 31, 2017 and the following current technical reports for those properties available at www.sedar.com: (i) Wassa - “NI 43-101 Technical Report on feasibility study of the Wassa open pit mine and underground project in Ghana” effective date December 31, 2014; and (ii) Prestea Underground - “NI 43-101 Technical Report on Resources and Reserves, Golden Star Resources, Bogoso/Prestea Gold Mine, Ghana” effective date December 31, 2017.

Cautionary Note to U.S. Investors

This MD&A has been prepared in accordance with the requirements of the securities laws in effect in Canada, which differ materially from the requirements of United States securities laws applicable to U.S. companies. Information concerning our mineral properties has been prepared in accordance with the requirements of Canadian securities laws, which differ in material respects from the requirements of the United States Securities and Exchange Commission (the “SEC”) set forth in Industry Guide 7. Under the SEC's Industry Guide 7, mineralization may not be classified as a “reserve” unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time of the reserve determination, and the SEC does not recognize the reporting of mineral deposits which do not meet the SEC Industry Guide 7 definition of “Reserve”. In accordance with NI 43-101, the terms “mineral reserve”, “proven mineral reserve”, “probable mineral reserve”, “mineral resource”, “measured mineral resource”, “indicated mineral resource” and “inferred mineral resource” are defined in accordance with CIM standards. While the terms “mineral resource”, “measured mineral resource”, “indicated mineral resource” and “inferred mineral resource” are recognized and required by NI 43-101, the SEC does not recognize them. You are cautioned that, except for that portion of mineral resources classified as mineral reserves, mineral resources do not have demonstrated economic viability. Inferred mineral resources have a high degree of uncertainty as to their existence and as to whether they can be economically or legally mined. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to a higher category. Therefore, you are cautioned not to assume that all or any part of an inferred mineral resource exists, that it can be economically or legally mined, or that it will ever be upgraded to a higher category. Likewise, you are cautioned not to assume that all or any part of measured mineral resources or indicated mineral resources will ever be upgraded into mineral reserves.

OVERVIEW OF GOLDEN STAR

Golden Star is an established, African-focused gold producer that holds a 90% interest in two producing gold mines in Ghana.

The Wassa Complex (“Wassa”) transformed into an underground-only operation in January 2018. The Prestea Complex (“Prestea”) comprises the Prestea Open Pits and the Prestea Underground Mine (“Prestea Underground”) and it is transforming into an underground-only operation during the fourth quarter of 2018. The Wassa Underground Mine (“Wassa Underground”) achieved commercial production on January 1, 2017 and Prestea Underground achieved commercial production on February 1, 2018.

Golden Star’s objective is to grow into a best-in-class, mid-tier gold producer. We aim to expand the Company and its production profile through the exploration and development of our existing mines, particularly Wassa, and through the acquisition of additional mines.

As the winner of the PDAC 2018 Environmental and Social Responsibility Award, we are committed to leaving a positive and sustainable legacy in our areas of operation.

The Company is a reporting issuer or the equivalent in all provinces of Canada, in Ghana and in the United States, and files disclosure documents with securities regulatory authorities in Canada, Ghana and with the SEC in the United States.

SUMMARY OF OPERATING AND FINANCIAL RESULTS

		Three Months Ended September 30,		Nine Months Ended September 30,	
		2018	2017	2018	2017
OPERATING SUMMARY					
Wassa gold sold	oz	38,295	31,999	112,397	95,515
Prestea gold sold	oz	19,364	42,380	64,181	100,612
Total gold sold	oz	57,659	74,379	176,578	196,127
Wassa gold produced	oz	38,097	31,724	112,135	95,233
Prestea gold produced	oz	19,016	42,103	63,803	100,563
Total gold produced	oz	57,113	73,827	175,938	195,796
Average realized gold price ¹	\$/oz	1,175	1,233	1,236	1,213
Cost of sales per ounce - Consolidated ²	\$/oz	998	855	1,102	959
Cost of sales per ounce - Wassa ²	\$/oz	817	1,083	919	1,178
Cost of sales per ounce - Prestea ²	\$/oz	1,355	669	1,433	744
Cash operating cost per ounce - Consolidated ²	\$/oz	780	671	831	747
Cash operating cost per ounce - Wassa ²	\$/oz	613	856	634	926
Cash operating cost per ounce - Prestea ²	\$/oz	1,110	520	1,188	570
All-in sustaining cost per ounce - Consolidated ²	\$/oz	994	848	1,077	924

¹ Average realized gold price per ounce excludes pre-commercial production ounces sold at Prestea Underground in 2018 and 2017.

² See “Non-GAAP Financial Measures” section for a reconciliation of cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce to cost of sales before depreciation and amortization.

FINANCIAL SUMMARY		Three Months Ended September 30,		Nine Months Ended September 30,	
		2018	2017	2018	2017
Gold revenues	\$'000	67,738	87,772	215,678	233,652
Cost of sales excluding depreciation and amortization	\$'000	48,873	53,502	166,164	160,081
Depreciation and amortization	\$'000	8,659	7,365	26,115	24,697
Mine operating margin	\$'000	10,206	26,905	23,399	48,874
General and administrative expense	\$'000	6,166	7,264	14,184	17,209
Loss/(gain) on fair value of financial instruments, net	\$'000	629	3,446	(3,512)	(3,959)
Net (loss)/income attributable to Golden Star shareholders	\$'000	(3,178)	12,117	(8,805)	26,170
Adjusted net income attributable to Golden Star shareholders ¹	\$'000	3,011	19,827	3,295	30,941
(Loss)/income per share attributable to Golden Star shareholders - basic	\$/share	(0.01)	0.03	(0.02)	0.07
(Loss)/income per share attributable to Golden Star shareholders - diluted	\$/share	(0.01)	0.03	(0.02)	0.06
Adjusted income per share attributable to Golden Star shareholders - basic ¹	\$/share	0.01	0.05	0.01	0.08
Cash provided by operations	\$'000	10,771	23,717	17,121	44,237
Cash provided by operations before working capital changes ²	\$'000	7,947	23,941	19,033	55,864
Cash provided by operations per share - basic	\$/share	0.03	0.06	0.04	0.12
Cash provided by operations before working capital changes per share - basic ²	\$/share	0.02	0.06	0.05	0.15
Capital expenditures	\$'000	9,784	17,877	31,554	52,877

¹ See “Non-GAAP Financial Measures” section for a reconciliation of adjusted net income attributable to Golden Star shareholders and adjusted income per share attributable to Golden Star shareholders to net (loss)/income attributable to Golden Star shareholders.

² See “Non-GAAP Financial Measures” section for an explanation of the calculation of cash provided by operations before working capital changes and cash provided by operations before working capital changes per share - basic.

- Gold revenue totaled \$67.7 million in the third quarter of 2018, compared to \$87.8 million in the same period in 2017.** Gold revenue for the third quarter of 2018 was \$20.0 million or 23% lower than the same period in 2017, as a decrease in revenue generated from Prestea was only partially offset by an increase in revenue generated by Wassa. Compared with the same period in 2017, gold revenue generated from Prestea decreased by 53% during the third quarter of 2018 resulting from the planned decrease in production from the Prestea Open Pits and the slower than expected ramp up at Prestea Underground. Gold revenue generated from Wassa increased by 14% as a result of an increase in gold sold from Wassa Underground. During the third quarter of 2018, gold revenue from the Prestea Open Pits accounted for 44% of total gold revenue of Prestea compared to 92% in the same period in 2017. The consolidated average realized gold price was \$1,175 per ounce in the third quarter of 2018, compared to \$1,233 per ounce for the same period in 2017. For the nine months ended September 30, 2018, gold revenue was \$215.7 million, an 8% decrease compared to \$233.7 million in the same period in 2017 due mainly to a 10% decrease in gold sold, offset partially by a 2% increase in average realized gold price.
- Gold sales of 57,659 ounces in the third quarter of 2018, compared to 74,379 ounces sold in the same period in 2017.** Gold sales from Wassa of 38,295 ounces in the third quarter of 2018 were 20% higher than the same period in 2017. This increase was primarily a result of improved grade and ore tonnes mined from Wassa Underground, which sold 36,517 ounces of gold compared to 15,877 ounces for the same period in 2017. Mining at Wassa Main Pit was suspended in January 2018 as the Wassa Complex transformed into an underground-only mining operation. Prestea gold sales of 19,364 ounces in the third quarter of 2018 were 54% lower than the same period in 2017 due primarily to the planned decrease in production from the Prestea Open Pits and the slower than expected ramp up at Prestea Underground. Revised consolidated gold production for 2018 is expected to be in the range of 225,000 to 235,000 ounces as a result of the slower than expected ramp up at Prestea Underground, representing a 5% decrease from the midpoint of the previous guidance range. For the nine months ended September 30, 2018, gold sales of 176,578 ounces were 10% lower than the 196,127 ounces sold in the same period in 2017 due primarily to the lower than expected production at Prestea Underground.
- Cost of sales excluding depreciation and amortization in the third quarter of 2018 totaled \$48.9 million compared to \$53.5 million in the same period in 2017.** Cost of sales excluding depreciation and amortization in the third quarter of 2018 decreased 9% compared to the same period in 2017 due mainly to a decrease in mine operating expense resulting from Wassa fully transitioning into an underground-only mine and a decrease in royalties due to lower gold sold at Prestea. This was offset

partially by an increase in metals inventory costs at Wassa resulting from processing of previously mined open pit ore stockpiles. Consolidated mine operating expenses decreased 13% in the third quarter of 2018 compared to the same period in 2017. For the nine months ended September 30, 2018, cost of sales excluding depreciation and amortization was \$166.2 million, a 4% increase compared to \$160.1 million in the same period in 2017. The increase was largely due to a 28% increase in cost of sales excluding depreciation and amortization at Prestea, primarily related to the continued drawdown of ore stockpiles and an increase in mine operating expenses related to Prestea Underground costs no longer being capitalized as commercial production was achieved on February 1, 2018. This increase was offset partially by a 11% decrease in cost of sales excluding depreciation and amortization at Wassa resulting from a decrease in mine operating expenses, as Wassa transitioned into an underground-only mine at the end of January 2018.

- **Consolidated cost of sales per ounce was \$998 in the third quarter of 2018, 17% higher than \$855 in the same period in 2017. Consolidated cash operating cost per ounce was \$780 in the third quarter of 2018, 16% higher than \$671 in the same period in 2017.** Wassa achieved a 28% improvement in cash operating cost per ounce in the third quarter of 2018 due mainly to higher gold sales from the Wassa Underground Mine and a reduction in mine operating expenses, as Wassa was fully transitioned into an underground-only mine at the beginning of the quarter. The lower cash operating cost per ounce at Wassa was offset by a 113% increase in cash operating cost per ounce at Prestea resulting primarily from a decrease in gold sold in the quarter compared to the same period in 2017. For the nine months ended September 30, 2018, consolidated cash operating cost per ounce increased 11% to \$831 from \$747 in the same period 2017 due mainly to an increase in inventory costs and mine operating expenses and a decrease in gold sold at Prestea, offset partially by a decrease in mine operating expenses and an increase in gold sold at Wassa.
- **Depreciation and amortization expense totaled \$8.7 million in the third quarter of 2018 compared to \$7.4 million in the same period in 2017.** The increase in depreciation and amortization expense in the third quarter of 2018 was due to an increase in depreciation at both Wassa and Prestea. Wassa depreciation increased mainly from an increase in gold production and mining interests, while Prestea depreciation increased due to the commencement of depreciation of Prestea Underground assets as commercial production was achieved on February 1, 2018. For the nine months ended September 30, 2018 depreciation and amortization expense totaled \$26.1 million, 6% higher than the same period in 2017 mainly due to an increase in gold production and mining interests at Wassa.
- **General and administrative expense totaled \$6.2 million in the third quarter of 2018, compared to \$7.3 million in the same period in 2017.** The decrease in general and administrative expense for the third quarter of 2018 was due primarily to a \$1.9 million decrease in share-based compensation expense compared to the same period in 2017. For the nine months ended September 30, 2018, general and administrative expense totaled \$14.2 million compared to \$17.2 million in the same period of 2017. The decrease relates primarily to a \$4.8 million decrease in share-based compensation expense compared to the same period in 2017. General and administrative expense, excluding share-based compensation, totaled \$4.0 million and \$11.5 million in the three and nine months ending September 30, 2018, compared to \$3.2 million and \$9.7 million in the same period in 2017. The increase in both periods relates primarily to an increase in salaries and benefits.
- **Finance expense totaled \$4.1 million in the third quarter of 2018, compared to \$2.3 million in the same period in 2017.** The increase in finance expense for the third quarter of 2018 was due primarily to a \$1.5 million decrease in capitalized interest, as Prestea Underground achieved commercial production on February 1, 2018 and a \$1.2 million increase in non-cash interest on the financing component of deferred revenue, partially offset by a \$0.7 million increase in net foreign exchange gains. For the nine months ended September 30, 2018 a total of \$6.8 million in interest payments was made, compared to \$7.3 million in the same period in 2017.
- **The Company recorded a loss of \$0.6 million on fair value of financial instruments in the third quarter of 2018 compared to a \$3.4 million loss in the same period in 2017.** The \$0.6 million fair value loss in the third quarter of 2018 relates to a non-cash revaluation loss on the embedded derivative liability of the 7% Convertible Debentures. The \$3.4 million fair value loss recognized in the third quarter of 2017 was comprised of a \$3.2 million non-cash revaluation loss on the embedded derivative liability of the 7% Convertible Debentures, a \$0.4 million non-cash revaluation loss on warrants and a \$0.2 million gain on warrants exercised. For the nine months ended September 30, 2018 and 2017, the Company recorded a \$3.5 million and \$4.0 million gain on fair value of financial instruments, respectively. The valuation techniques used for these financial instruments are disclosed in the “Financial Instruments” section of this MD&A.
- **Net loss attributable to Golden Star shareholders for the third quarter of 2018 totaled \$3.2 million or \$0.01 loss per share (basic), compared to a net income of \$12.1 million or \$0.03 income per share (basic) in the same period in 2017.** For the nine months ended September 30, 2018, net loss attributable to Golden Star shareholders totaled \$8.8 million or \$0.02 loss per share (basic), compared to a net income of \$26.2 million or \$0.07 income per share (basic) in the same period in 2017. The net loss and loss per share (basic) attributable to Golden Star shareholders in the third quarter of 2018 compared to the net income and income per share (basic) in the same period of 2017 was mainly due to a decrease of \$16.7 million in mine operating margin, a \$4.2 million increase in deferred income tax expense and a \$1.8 million increase in finance expense, partially offset by a \$2.8 million decrease in the loss on fair value of financial instruments, a \$1.1 million decrease in general

and administrative expenses and a \$0.9 million increase in other income. The net loss and loss per share (basic) attributable to Golden Star shareholders for the nine months ended September 30, 2018 compared to the net income and income per share (basic) in the same period in 2017 was mainly due to a decrease of \$25.5 million in mine operating margin, \$10.8 million increase in deferred income tax expense and \$6.8 million increase in finance expense, partially offset by a \$3.0 million decrease in general and administrative expenses and a \$1.7 million increase in other income.

- **Adjusted net income attributable to Golden Star shareholders (see “Non-GAAP Financial Measures” section) was \$3.0 million in the third quarter of 2018, compared to adjusted net income attributable to Golden Star shareholders of \$19.8 million for the same period in 2017.** The decrease in adjusted net income attributable to Golden Star shareholders for the third quarter of 2018 compared to the same period in 2017 was primarily due to a lower consolidated mine operating margin related to Prestea and higher net finance and exploration expenses. For the nine months ended September 30, 2018, the adjusted net income attributable to Golden Star shareholders was \$3.3 million compared to \$30.9 million for the same period in 2017. The decrease in adjusted net income attributable to Golden Star shareholders for the nine months ended September 30, 2018, was mainly due to a lower consolidated mine operating margin related to Prestea and higher net finance and exploration expenses.
- **Cash provided by operations before working capital changes (see “Non-GAAP Financial Measures” section) was \$7.9 million for the third quarter of 2018, compared to \$23.9 million in the same period in 2017.** The decrease in cash provided by operations before working capital changes was due primarily to a decrease in consolidated mine operating margin related to Prestea and an increase in consolidated exploration, reclamation and interest payments. For the nine months ended September 30, 2018, cash provided by operations before working capital changes was \$19.0 million compared to \$55.9 million in the same period in 2017. The decrease was primarily due to a decrease in consolidated mine operating margin related to Prestea and a \$10.0 million decrease in advance payments from RGLD AG (“RGLD”), as the full \$145.0 million in advance payments under the gold purchase and sale agreement (the “Streaming Agreement”) were received by the end of January 2017.
- **Capital expenditures for the third quarter of 2018 totaled \$9.8 million compared to \$17.9 million in the same period in 2017.** Capital expenditures at Wassa during the third quarter of 2018 comprised 71% of total capital expenditures and totaled \$7.0 million, which included \$3.0 million on Wassa Underground capitalized development, \$2.0 million on Wassa Underground heavy and mobile equipment, \$1.3 million on exploration drilling and \$0.7 million on other equipment. Capital expenditures at Prestea during the third quarter of 2018 comprised 29% of total capital expenditures and totaled \$2.8 million, which included \$1.7 million on development of Prestea Underground, \$0.5 million on the processing plant, \$0.3 million on exploration drilling and \$0.3 million on other equipment.

OUTLOOK FOR 2018

Production and cost guidance

The Company's consolidated production and cost guidance was revised during the quarter. Consolidated gold production for 2018 is expected to be in the range of 225,000 to 235,000 ounces as a result of the slower than expected ramp up at Prestea Underground, representing a 5% decrease from the midpoint of the previous guidance range. Consolidated cash operating cost per ounce is expected to be in the range of \$790 to \$830 for 2018, representing a 17% increase from the midpoint of the previous guidance range as stronger than expected performance at Wassa Underground only partially offset the weaker than expected performance at Prestea Underground. Consolidated all-in sustaining cost per ounce is expected to be in the range of \$1,050 to \$1,100 for 2018, representing a 19% increase from the midpoint of the previous guidance range.

Golden Star expects to achieve its full year 2018 consolidated guidance in terms of gold production, cash operating cost per ounce and all-in sustaining cost per ounce.

Capital expenditure guidance

Following the strategic investment by La Mancha, expected capital expenditures for 2018 increased from \$36.5 million to \$45.1 million, which includes \$10.9 million for exploration. The expected increase of \$8.6 million in comparison to previous guidance is due to a \$4.3 million increase in Wassa Underground development and a \$4.3 million increase in exploration spending.

CORPORATE DEVELOPMENTS

Gold prices

Spot gold prices were \$1,184 per ounce at the end of the third quarter of 2018, down from \$1,251 per ounce at the end of the second quarter of 2018. The Company realized an average gold price of \$1,175 per ounce for gold sales during the third quarter of 2018, compared to an average realized gold price of \$1,233 per ounce for the same period in 2017. The spot gold price on October 31, 2018 was \$1,220 per ounce.

Revenue from spot sales during the third quarter of 2018 resulted in an average realized price of \$1,212 per ounce whereas revenue recognized from the Streaming Agreement with RGLD resulted in an average realized price of \$881 per ounce.

	Three Months Ended September 30, 2018		
	\$'000	Ounces	Realized price per ounce
Revenue - Stream arrangement			
Cash proceeds	\$ 1,592		
Deferred revenue recognized	4,154		
	\$ 5,746	6,521	\$ 881
Revenue - Spot sales	61,992	51,138	1,212
Total	\$ 67,738	57,659	\$ 1,175

Private Placement

On October 1, 2018 the Company completed a \$125.7 million strategic investment by La Mancha Holding S.à r.l. ("La Mancha"), a Luxembourg-incorporated private gold investment company, through a private placement of common shares. Following receipt of the funds La Mancha was issued 163,210,500 Golden Star common shares, representing approximately 30% of the outstanding share capital (on a non-diluted basis) after giving effect to La Mancha's investment. Pursuant to the transaction, La Mancha has customary anti-dilution and demand registration rights and is subject to a two year equity lock-up, as well as to certain customary standstill provisions. In addition, two new directors were appointed to the Company's Board of Directors as part of La Mancha's right to appoint up to three nominees. Andrew Wray, Chief Executive Officer of La Mancha, and Graham Crew, La Mancha's second nominee, joined the Board of Directors effective October 1, 2018.

This strategic investment strengthens the Company's balance sheet and provides the Company with increased financial capacity to unlock organic growth opportunities and participate in the consolidation of the African gold sector.

The table below provides a breakdown of the expected use of proceeds from La Mancha's \$125.7 million strategic investment (net cash of approximately \$125.0 million). Golden Star has presented the use of proceeds as a series of ranges as the size of the exploration budget is dependent on the success of the exploration program at each asset and this will impact the size of the development and expansion budget and the general corporate purposes budget. Golden Star expects to use the proceeds from La

Mancha's strategic investment on its organic projects between the fourth quarter of 2018 and the end of 2020, whereas any external growth opportunities will be assessed on a case-by-case basis as they arise.

(Stated in millions of U.S dollars)	Range	
Exploration	\$ 20.0	\$ 35.0
Development and expansion	30.0	75.0
General corporate purposes	75.0	15.0
Total (Net Cash)	\$ 125.0	\$ 125.0

Exploration

Golden Star expects the majority of the \$20.0 million to \$35.0 million exploration budget to be allocated to Wassa Underground.

The second exploration focus is anticipated to be the Father Brown satellite deposit, which has the potential to be a second high grade ore supply for the Wassa processing plant as an underground operation. Golden Star mined Father Brown between 2011 and 2015 as an open pit operation. It has Indicated Mineral Resources of 1.2Mt at 5.84 grams per tonne ("g/t") of gold ("Au") for 233,000 ounces and Inferred Mineral Resources of 1.5Mt at 5.08 g/t Au for 246,000 ounces, with potential for Mineral Resource growth. The two objectives of the planned drilling are to assess if the deposit extends beyond the current Inferred Mineral Resources beneath the Father Brown and Adiokrom pits and to convert Inferred Mineral Resources into Indicated Mineral Resources.

The third focus of the exploration program is Prestea Underground and the objective of this drilling is to convert Inferred Mineral Resources in Prestea Underground's West Reef deposit to Indicated Mineral Resources.

Golden Star intends to deploy ten diamond drill rigs across its three targets, with six at Wassa Underground, two at the Father Brown satellite deposit and two at Prestea Underground.

Development and Expansion

The development and expansion budget has the objective of increasing the throughput of Wassa Underground and potentially developing the Father Brown satellite deposit.

At Wassa Underground, the objective is to increase Wassa Underground's average production rate from 3,000 tonnes per day ("tpd") in 2018 to 4,000 tpd by mid-2020. Golden Star intends to construct a paste backfill plant, with the remainder of the budget to include provisions for decline and ore drive development and purchasing of additional mining equipment.

At Father Brown, the objective is to develop a standalone underground operation with a production rate of potentially 1,500 tpd. However, the construction of the Father Brown underground operation is highly dependent on the success of the exploration program at the deposit.

General Corporate Purposes

The general corporate purposes budget has a range of \$15.0 million to \$75.0 million primarily because if Golden Star chooses not to develop Father Brown into an underground operation, further funds will be available for severance expenses at Prestea and general corporate purposes. Golden Star may choose to use the funds for its external growth strategy or for organic development elsewhere within the Company.

The use of proceeds is discretionary and may be updated in accordance with Golden Star's plans to pursue organic or external growth.

Share Consolidation

Subsequent to the end of the quarter, Golden Star consolidated its issued and outstanding common shares on the basis of one post-consolidation common share for every five pre-consolidation common shares (the "Consolidation"). The Consolidation was approved by the Company's shareholders at a special meeting held on September 17, 2018. Prior to the La Mancha transaction, there were 380.8 million Golden Star common shares issued and outstanding. Subsequent to the completion of the transaction, there were 544.0 million common shares issued and outstanding, and post-Consolidation this number is approximately 108.8 million common shares issued and outstanding.

Exploration Update

During the third quarter of 2018, exploration activities continued to focus on step out drilling at Wassa Underground from surface and in-fill drilling Indicated Mineral Resources at Prestea Underground's West Reef deposit from underground.

1. See press release entitled "Golden Star Doubles Inferred Mineral Resources at Wassa Underground Gold Mine", dated April 12, 2018.

Wassa Underground

Golden Star released the results of drilling undertaken during the first half of 2018 on September 20, 2018¹. These results confirmed that gold mineralization extends 200 metres down plunge to the south of the Inferred Mineral Resources at Wassa Underground, demonstrating the extension of the deposit, and they are anticipated to increase Wassa's Inferred Mineral Resources. Some of the previously released significant intercepts were as follows²:

- 64.3 metres grading 7.4 g/t Au from 577 metres and
- 49.7 metres grading 5.5 g/t Au from 792.0 metres in hole BS18DD391D1 (drilled depths from wedge, which is 730.0 metres down the mother hole)
- 17.5 metres grading 10.0 g/t Au from 1,369.70 metres in hole BS18DD391M

During the third quarter of 2018, two drill rigs were employed at Wassa with the objective of further testing the extensions of the Wassa Underground gold mineralization to the south. Three holes were completed during the quarter totaling approximately 4,000 metres, the results of two of which were also released on September 20, 2018, and the results of the third hole are pending. Golden Star expects to release further drilling results from Wassa Underground, including the results of the third hole, during the fourth quarter of 2018.

Prestea Underground

Drilling of the West Reef from 24 Level at Prestea Underground continued during the third quarter of 2018, with one drill rig completing seven holes for a total of 2,200 metres. The drilling focused on continuing to in-fill the existing Indicated Mineral Resources and testing Inferred Mineral Resources between the 21 and 27 Levels.

During the first nine months of 2018 drilling has been restricted to less prospective areas of the West Reef. This was due to limited drilling access to the northern portion of the active mining area, which is expected to have the most potential for Mineral Resource addition.

A drilling chamber, which is planned to provide access to the northern area to test for high grade extensions to the West Reef gold mineralization, is expected to be completed late in the fourth quarter of 2018 and drilling is expected to commence immediately afterwards.

Father Brown satellite deposit

Drilling commenced at the Father Brown satellite deposit during the third quarter of 2018, utilizing two drill rigs. Golden Star expects to release the initial 2018 drilling results from Father Brown during the fourth quarter of 2018.

¹ See press release entitled, "Golden Star Extends Wassa Underground Deposit a Further 200 Metres to the South", dated September 20, 2018.

² All widths quoted are estimated true widths.

WASSA OPERATIONS

Through a 90% owned subsidiary, Golden Star (Wassa) Limited, the Company owns and operates the Wassa Complex. Wassa is located in the southwestern region of Ghana, approximately 35 kilometers northeast of the town of Tarkwa. In 2017, Golden Star operated the Wassa Main Pit (an open pit operation) and Wassa Underground (an underground operation). As of February 1, 2018 Wassa became an underground-only operation. Wassa has a non-refractory processing plant (the “Wassa processing plant”) consisting of a carbon-in-leach (“CIL”) system with a capacity of 2.7 million tonnes per annum. In 2017, ore from both the Wassa Main Pit and Wassa Underground was processed at the Wassa processing plant, however from late 2018 it is expected to process primarily underground ore.

		Three Months Ended September 30,		Nine Months Ended September 30,	
		2018	2017	2018	2017
WASSA FINANCIAL RESULTS					
Revenue	\$'000	45,029	39,556	138,969	115,748
Mine operating expenses	\$'000	21,694	27,980	64,872	84,613
Severance charges	\$'000	—	145	4,970	1,099
Royalties	\$'000	2,309	2,033	7,192	5,970
Operating costs from/(to) metals inventory	\$'000	1,770	(603)	6,395	3,827
Inventory net realizable value adjustment and write-off	\$'000	232	606	3,335	2,410
Cost of sales excluding depreciation and amortization	\$'000	26,005	30,161	86,764	97,919
Depreciation and amortization	\$'000	5,284	4,481	16,473	14,612
Mine operating margin	\$'000	13,740	4,914	35,732	3,217
Capital expenditures	\$'000	7,033	6,469	21,522	13,113
WASSA OPERATING RESULTS					
Ore mined - Main Pit	t	—	395,623	54,281	1,080,522
Ore mined - Underground	t	313,369	211,670	765,714	509,234
Ore mined - Total	t	313,369	607,293	819,995	1,589,756
Waste mined - Main Pit	t	—	1,436,889	72,538	4,993,512
Waste mined - Underground	t	73,327	56,553	219,977	139,496
Waste mined - Total	t	73,327	1,493,442	292,515	5,133,008
Ore processed - Main Pit	t	77,386	457,232	433,455	1,448,759
Ore processed - Underground	t	316,907	211,670	765,714	512,069
Ore processed - Total	t	394,293	668,902	1,199,169	1,960,828
Grade processed - Main Pit	g/t	0.65	1.20	0.80	1.24
Grade processed - Underground	g/t	3.69	2.61	4.33	2.68
Recovery	%	95.8	93.1	95.7	95.0
Gold produced - Main Pit	oz	1,580	15,847	10,585	54,587
Gold produced - Underground	oz	36,517	15,877	101,550	40,646
Gold produced - Total	oz	38,097	31,724	112,135	95,233
Gold sold - Main Pit	oz	1,778	16,122	10,847	54,869
Gold sold - Underground	oz	36,517	15,877	101,550	40,646
Gold sold - Total	oz	38,295	31,999	112,397	95,515
Cost of sales per ounce ¹	\$/oz	817	1,083	919	1,178
Cash operating cost per ounce ¹	\$/oz	613	856	634	926

¹ See “Non-GAAP Financial Measures” section for a reconciliation of cost of sales per ounce and cash operating cost per ounce to cost of sales excluding depreciation and amortization.

For the three months ended September 30, 2018 compared to the three months ended September 30, 2017

Production

Gold production from Wassa was 38,097 ounces for the third quarter of 2018, a 20% increase from the 31,724 ounces produced during the same period in 2017. This increase in production was primarily due to higher gold production from Wassa Underground as its grade, recovery and tonnes mined improved. As of February 1, 2018 Wassa became an underground-only mining operation, however, 77,386 tonnes of stockpiled ore was processed throughout the quarter.

Wassa Underground

Wassa Underground produced 36,517 ounces of gold (or approximately 96% of Wassa's total production) in the third quarter of 2018, compared to 15,877 ounces in the same period in 2017 (or approximately 50% of Wassa's total production). This 130% increase in production was related to increased grade and ore tonnes mined, resulting from productivity improvements. The underground ore grade increased by 41% to 3.69 g/t Au compared to the same period in 2017 as mining was focused solely on the B-Shoot zone where larger stopes and higher grade areas were accessed. Mining rates at Wassa Underground also increased to approximately 3,400 tpd on average in the third quarter of 2018 compared to approximately 2,200 tpd in the same period in 2017. Underground ore processed increased 50% in the third quarter of 2018 to 316,907 tonnes compared to the same period in 2017.

Wassa Main Pit

Wassa Main Pit produced 1,580 ounces in the third quarter of 2018, compared to 15,847 ounces in the same period in 2017. This decrease in production is a result of the planned transition into an underground-only mine. Mining ceased from the Wassa Main Pit in January 2018 as planned, however stockpiled ore is expected to be fed to the processing plant during the fourth quarter of 2018.

Gold revenue

Gold revenue for the third quarter of 2018 was \$45.0 million, an increase of 14% from \$39.6 million in the same period in 2017 due mainly to an increase in gold sold, offset partially by a decrease in the average realized gold price. Gold sold increased 20% to 38,295 ounces for the third quarter of 2018, compared to 31,999 ounces in the same period in 2017. The increase was a result of increased gold production from Wassa Underground. The average realized gold price decreased 5% to \$1,176 per ounce for the third quarter of 2018, compared to \$1,236 per ounce in the same period in 2017.

Cost of sales excluding depreciation and amortization

Cost of sales excluding depreciation and amortization was \$26.0 million for the third quarter of 2018, compared to \$30.2 million for the same period in 2017. The decrease was due primarily to a 22% decrease in mine operating expenses resulting from the suspension of open pit mining and related costs, as Wassa has fully transitioned into an underground-only mine. This decrease was partially offset by an increase in inventory costs resulting from a drawdown of ore stockpiles in the period compared to prior year and an increase in royalty expense due to higher gold sales.

Depreciation and amortization

Depreciation and amortization expense increased to \$5.3 million for the third quarter of 2018, compared to \$4.5 million for the same period in 2017 due mainly to an increase in gold production and mining interests.

Costs per ounce

Cost of sales per ounce decreased 25% to \$817 for the third quarter of 2018 from \$1,083 in the same period in 2017. Cash operating cost per ounce decreased 28% to \$613 from \$856 for the same period in 2017. The lower costs per ounce in the third quarter of 2018 as compared to the same period in 2017 were primarily a result of a decrease in mine operating expenses and an increase in gold sold.

Capital expenditures

Capital expenditures for the third quarter of 2018 totaled \$7.0 million compared with \$6.5 million during the same period in 2017. The increase in capital expenditures was due primarily to an increase of \$2.3 million in Wassa Underground capitalized development, mobile equipment and underground heavy equipment costs to facilitate increased mining rates during the period. Partially offsetting this increase was a \$1.0 million decrease in replacement equipment, \$0.7 million decrease in exploration drilling and a \$0.1 million decrease in other capital expenditures.

For the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017

Production

Gold production from Wassa was 112,135 ounces for the nine months ended September 30, 2018, an 18% increase from the 95,233 ounces produced during the same period in 2017. This increase in production was primarily due to Wassa Underground as its grade, recovery and tonnes mined improved. As of February 1, 2018 Wassa became an underground-only mining operation, however, stock piled ore continued to be processed throughout the quarter.

Wassa Underground

Wassa Underground produced 101,550 ounces of gold (or approximately 91% of Wassa's total production) for the nine months ended September 30, 2018, compared to 40,646 ounces in the same period in 2017 (or approximately 43% of Wassa's total production). This 150% increase in production was related to increased grade, recovery and tonnes mined, resulting from productivity improvements. The underground ore grade increased by 62% to 4.33 g/t Au compared to the same period in 2017 as mining was focused solely on the B-Shoot zone where larger stopes and higher grade areas were accessed. Mining rates at Wassa Underground also increased to approximately 3,000 tpd on average for the nine months ended September 30, 2018 compared to approximately 1,800 tpd in the same period in 2017. Ore processed increased 50% for the nine months ended September 30, 2018 to 765,714 tonnes compared to the same period in 2017.

Wassa Main Pit

Wassa Main Pit produced 10,585 ounces for the nine months ended September 30, 2018, compared to 54,587 in the same period in 2017. This decrease in production is a result of the planned transition into an underground-only mine, as surface mining operations have reached the bottom of the Cut 2 pushback. Mining ceased from the Wassa Main Pit in January 2018 as planned, however stockpiled ore is expected to be fed to the processing plant during the fourth quarter of 2018.

Gold revenue

Gold revenue for the nine months ended September 30, 2018 was \$139.0 million, an increase of 20% from \$115.7 million in the same period in 2017 due mainly to an increase in gold sold. Gold sold increased 18% to 112,397 ounces for the nine months ended September 30, 2018 compared to 95,515 ounces in the same period in 2017. The increase was a result of increased gold production from Wassa Underground. The average realized gold price increased 2% to \$1,236 per ounce for the nine months ended September 30, 2018 compared to \$1,212 per ounce in the same period in 2017.

Cost of sales excluding depreciation and amortization

Cost of sales excluding depreciation and amortization was \$86.8 million for the nine months ended September 30, 2018 compared to \$97.9 million for the same period in 2017. The decrease was due primarily to a 23% decrease in mine operating expenses resulting from the suspension of open pit mining and related costs, as Wassa transitioned into an underground-only mine at the end of January 2018. This decrease was partially offset by increases in severance charges related to the suspension of the Wassa surface mining operation, increased royalty expense due to higher gold sales, an increase in inventory costs and an increase in inventory net realizable adjustment and write-offs.

Depreciation and amortization

Depreciation and amortization expense increased to \$16.5 million for the nine months ended September 30, 2018 compared to \$14.6 million in the same period in 2017 due mainly to an increase in gold production and mining interests.

Costs per ounce

Cost of sales per ounce decreased 22% to \$919 for the nine months ended September 30, 2018 compared to \$1,178 in the same period in 2017. Cash operating cost per ounce decreased 32% to \$634 from \$926 in the same period in 2017. The lower costs per ounce for the nine months ended September 30, 2018 as compared to the same period in 2017 was primarily a result of a decrease in mine operating expenses and an increase in gold sold.

Capital expenditures

Capital expenditures for the nine months ended September 30, 2018 totaled \$21.5 million compared to \$13.1 million during the same period in 2017. The increase in capital expenditures is due primarily to an increase of \$4.2 million in Wassa Underground capitalized development and \$2.9 million in mobile equipment and underground heavy equipment costs related to facilitating increased mining rates during the period. In addition, an increase of \$1.1 million in exploration costs were incurred compared to the same period in 2017 related to phase one deep drilling at Wassa Underground, intended to further assess the B-Shoot and F-Shoot down plunge extensions.

PRESTEA OPERATIONS

Through a 90% owned subsidiary, Golden Star (Bogoso/Prestea) Limited, the Company owns and operates the Prestea Complex located near the town of Prestea, Ghana. The Prestea complex consists of Prestea Underground (an underground operation), the Prestea Open Pits (neighboring open pits formed from oxide deposits) and associated support facilities. Prestea has a CIL processing facility with capacity of up to 1.5 million tonnes per annum, located 14 km away at Bogoso, which is suitable for treating non-refractory gold ore (the “non-refractory plant”). Ore from both Prestea Underground and the Prestea Open Pits is processed in the non-refractory plant. Prestea Underground achieved commercial production on February 1, 2018.

		Three Months Ended September 30,		Nine Months Ended September 30,	
		2018	2017	2018	2017
PRESTEA FINANCIAL RESULTS					
Revenue	\$'000	22,709	48,216	76,709	117,904
Mine operating expenses	\$'000	21,706	22,113	68,130	59,801
Severance charges	\$'000	6	83	6	83
Royalties	\$'000	1,154	2,901	4,101	6,705
Operating costs (to)/from metals inventory	\$'000	(211)	(1,756)	5,713	(4,427)
Inventory net realizable value adjustment and write-off	\$'000	213	—	1,450	—
Cost of sales excluding depreciation and amortization	\$'000	22,868	23,341	79,400	62,162
Depreciation and amortization	\$'000	3,375	2,884	9,642	10,085
Mine operating (loss)/margin	\$'000	(3,534)	21,991	(12,333)	45,657
Capital expenditures	\$'000	2,751	11,408	10,032	39,774
PRESTEA OPERATING RESULTS					
Ore mined - Open pits	t	67,238	469,961	341,493	1,162,360
Ore mined - Underground	t	34,575	5,093	98,394	12,282
Ore mined - Total	t	101,813	475,054	439,887	1,174,642
Waste mined - Open pits	t	182,103	1,024,836	834,416	2,563,589
Waste mined - Underground	t	2,184	6,374	4,395	20,049
Waste mined - Total	t	184,287	1,031,210	838,811	2,583,638
Ore processed - Open pits	t	307,482	389,065	994,400	1,145,150
Ore processed - Underground	t	34,575	19,276	98,394	22,650
Ore processed - Total	t	342,057	408,341	1,092,794	1,167,800
Grade processed - Open pits	g/t	1.12	3.49	1.24	2.98
Grade processed - Underground	g/t	10.39	5.83	10.69	5.51
Recovery	%	84.0	86.7	87.0	87.9
Gold produced - Open pits	oz	8,148	38,899	32,991	97,034
Gold produced - Underground	oz	10,868	3,204	30,812	3,529
Gold produced - Total	oz	19,016	42,103	63,803	100,563
Gold sold - Open pits	oz	8,496	39,176	33,369	97,083
Gold sold - Underground	oz	10,868	3,204	30,812	3,529
Gold sold - Total	oz	19,364	42,380	64,181	100,612
Cost of sales per ounce ¹	\$/oz	1,355	669	1,433	744
Cash operating cost per ounce ¹	\$/oz	1,110	520	1,188	570

¹ See “Non-GAAP Financial Measures” section for a reconciliation of cost of sales per ounce and cash operating cost per ounce to cost of sales excluding depreciation and amortization.

For the three months ended September 30, 2018 compared to the three months ended September 30, 2017

Production

Gold production from Prestea was 19,016 ounces in the third quarter of 2018, a 55% decrease from the 42,103 ounces produced during the same period in 2017. This decrease in production was due primarily to the planned reduction from the Prestea Open Pits and the slower than expected ramp up at Prestea Underground.

Prestea Open Pits

The Prestea Open Pits produced 8,148 ounces in the third quarter of 2018, compared to 38,899 ounces in the same period in 2017. This decrease in production was planned, as the Prestea Open Pits were expected to complete gold production at the end of 2017. Mining has continued into the third quarter of 2018 with additional ore being sourced from the pits close to Prestea. Processing of stockpiled ore is expected to continue into the fourth quarter of 2018.

Prestea Underground

Prestea Underground declared commercial production on February 1, 2018 and produced 10,868 ounces in the third quarter of 2018 compared to 3,204 ounces in the same period in 2017. Improvements in the mining sequence, as a result of the Alimak training program being brought in-house during the quarter, resulted in a 10% increase in ore tonnes mined compared to the second quarter of 2018, however, lower grade in the quarter impacted production. Despite the ramp up being slower than expected, there have been improvements in the key lead indicators of raise development and long hole drilling since the handover to in-house training. The mining team continues to strengthen the mining sequence and adjust drill design patterns, raise layouts and stope ventilation and performance is expected to continue to improve.

Gold revenue

Gold revenue for the third quarter of 2018 was \$22.7 million, a decrease of 53% from \$48.2 million in the same period of 2017 due mainly to a decrease in gold sales and average realized gold price. Gold sold decreased 54% to 19,364 ounces for the third quarter of 2018, compared to 42,380 ounces in the same period of 2017. The decrease was primarily a result of a decrease in gold production from the Prestea Open Pits and the slower than expected ramp up at Prestea Underground. The average realized gold price decreased 5% to \$1,173 per ounce for the third quarter of 2018, compared to \$1,231 per ounce for the same period in 2017.

Cost of sales excluding depreciation and amortization

Cost of sales excluding depreciation and amortization was \$22.9 million for the third quarter of 2018, compared to \$23.3 million for the same period in 2017. The marginal decrease was due primarily to a \$1.7 million decrease in royalties resulting from lower gold sales in the period, offset partially by a \$1.5 million decrease in inventory recovery compared to prior year. Mine operating expenses were consistent with the prior year as the increase related to the addition of Prestea Underground mining costs that were capitalized in the same period last year was offset by the decrease in costs related to less production from the Prestea Open Pits.

Depreciation and amortization

Depreciation and amortization expense increased to \$3.4 million for the third quarter of 2018, compared to \$2.9 million for the same period in 2017 due mainly to the commencement of depreciation of Prestea Underground assets as commercial production was achieved on February 1, 2018, offset partially by a decrease in gold production.

Costs per ounce

Cost of sales per ounce increased 103% to \$1,355 for the third quarter of 2018 from \$669 in the same period in 2017. Cash operating cost per ounce increased 113% to \$1,110 from \$520 for the same period in 2017. The increase in costs per ounce was primarily due to the decrease in gold sold in the quarter.

Capital expenditures

Capital expenditures for the third quarter of 2018 totaled \$2.8 million compared to \$11.4 million incurred during the same period in 2017. The decrease relates primarily to a \$6.6 million decrease in development expenditures and \$1.4 million decrease in capitalized borrowing costs relating to Prestea Underground which achieved commercial production on February 1, 2018. In addition, there was a \$0.6 million decrease in capital expenditure related to the Prestea Open Pits and Mampon, as some of these deposits ceased production by the end of 2017.

For the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017

Production

Gold production from Prestea was 63,803 ounces for the nine months ended September 30, 2018, a 37% decrease from the 100,563 ounces produced during the same period in 2017. This decrease in production was due primarily to the planned reduction from the Prestea Open Pits and the slower than expected ramp up at Prestea Underground.

Prestea Open Pits

The Prestea Open Pits produced 32,991 ounces for the nine months ended September 30, 2018, compared to 97,034 ounces in the same period in 2017. This decrease in production was planned, as the Prestea Open Pits were expected to complete gold production at the end of 2017. Mining has continued into the third quarter of 2018 with additional ore being sourced from the pits close to Prestea. Processing of stockpiled ore is expected to continue until the fourth quarter of 2018.

Prestea Underground

Prestea Underground declared commercial production on February 1, 2018 and produced 30,812 ounces for the nine months ended September 30, 2018, compared to 3,529 ounces in the same period in 2017. Ore tonnes mined improved in the third quarter of 2018, increasing 10% compared to the second quarter of 2018, however, reduced grade impacted production. Despite the ramp up being slower than expected, there have been significant improvements in the key lead indicators of raise development and long hole drilling since the handover to in-house Alimak training in the third quarter. The mining team continues to strengthen the mining sequence and adjust drill design patterns, raise layouts and stope ventilation and performance is expected to continue to improve.

Gold revenue

Gold revenue for the nine months ended September 30, 2018 was \$76.7 million a decrease of 35% from \$117.9 million in the same period in 2017 due mainly to a decrease in gold sold. Gold sold decreased 36% to 64,181 ounces for the nine months ended September 30, 2018 compared to 100,612 ounces in the same period in 2017. The decrease was primarily a result of a decrease in gold production from the Prestea Open Pits and the slower than expected ramp up at Prestea Underground. The realized average gold price increased 2% to \$1,235 per ounce for the nine months ended September 30, 2018, compared to \$1,214 per ounce for the same period in 2017.

Cost of sales excluding depreciation and amortization

Cost of sales excluding depreciation and amortization was \$79.4 million for the nine months ended September 30, 2018 compared to \$62.2 million for the same period in 2017. The increase was due primarily to a \$10.1 million increase in inventory costs, as ore stockpiles were processed during the period related to the Prestea Underground ramp up and the planned reduction from the Prestea Open Pits. Additionally, there was a 14% increase in mine operating expenses due to the addition of Prestea Underground mining costs that were capitalized in the same period in 2017. Offsetting these increases was a 39% decrease in royalties due to lower gold sales in the period.

Depreciation and amortization

Depreciation and amortization expense decreased to \$9.6 million for the nine months ended September 30, 2018, compared to \$10.1 million for the same period in 2017 due mainly to a decrease in gold production, offset partially by the commencement of depreciation of Prestea Underground assets as commercial production was achieved on February 1, 2018.

Costs per ounce

Cost of sales per ounce increased 93% to \$1,433 for the nine months ended September 30, 2018, compared to \$744 for the same period in 2017. Cash operating cost per ounce increased 108% to \$1,188 for the nine months ended September 30, 2018 compared to \$570 for the same period in 2017. The increase in costs per ounce was primarily due to the increase in inventory costs and mine operating expenses in the period, as well as the decrease in ounces sold for the nine months ended September 30, 2018 compared to the same period in 2017.

Capital expenditures

Capital expenditures for the nine months ended September 30, 2018 totaled \$10.0 million compared to \$39.8 million incurred during the same period in 2017. The decrease relates primarily to a \$23.4 million decrease in development expenditures and a \$3.1 million decrease in capitalized borrowing costs relating to Prestea Underground which achieved commercial production on February 1, 2018. In addition, there was a \$3.6 million decrease in capital expenditure related to the Prestea Open Pits and Mampon, as some of these deposits ceased production by the end of 2017. Partially offsetting these decreases was a \$0.3 million increase in exploration drilling expenditures, which has the objective of extending the West Reef and the Main Reef ore bodies.

SUMMARIZED QUARTERLY FINANCIAL RESULTS

(Stated in thousands of U.S dollars except per share data)	Three Months Ended,							
	Q3 2018	Q2 2018	Q1 2018	Q4 2017	Q3 2017	Q2 2017	Q1 2017	Q4 2016
Revenues	\$67,738	\$77,121	\$70,819	\$ 81,845	\$87,772	\$77,335	\$68,545	\$53,255
Cost of sales excluding depreciation and amortization	48,873	57,717	59,574	66,401	53,502	55,173	51,406	43,994
Net (loss)/income	(71)	(7,560)	(395)	13,825	13,703	13,681	(250)	2,551
Net (loss)/income attributable to shareholders of Golden Star	(3,178)	(6,642)	1,015	12,601	12,117	13,883	170	3,446
Adjusted net income/(loss) attributable to Golden Star shareholders ¹	3,011	2,408	(1,409)	15,151	19,827	7,703	3,411	64
Net (loss)/income per share attributable to Golden Star shareholders - basic	(0.01)	(0.02)	0.00	0.03	0.03	0.04	0.00	0.01
Net (loss)/income per share attributable to Golden Star shareholders - diluted	(0.01)	(0.02)	(0.01)	0.03	0.03	0.02	0.00	0.01
Adjusted income per share attributable to Golden Star shareholders - basic ¹	0.01	0.01	0.00	0.04	0.05	0.02	0.01	0.00

¹ See “Non-GAAP Financial Measures” section for a reconciliation of adjusted net income attributable to Golden Star shareholders and adjusted income per share attributable to Golden Star shareholders to net (loss)/income attributable to Golden Star shareholders.

LIQUIDITY AND FINANCIAL CONDITION

The Company held \$18.4 million in cash and cash equivalents as at September 30, 2018, down from \$27.8 million at December 31, 2017. During the nine months ended September 30, 2018, operations provided \$17.1 million, investing activities used \$30.9 million and financing activities provided \$4.3 million of cash.

Before working capital changes, operations provided \$19.0 million of operating cash flow for the nine months ended September 30, 2018, compared to \$55.9 million in the same period in 2017. Cash provided by operations decreased primarily due to a decrease in consolidated mine operating margin related to Prestea, as well as a \$10.0 million decrease in advance payments from RGLD as the full \$145.0 million in advance payments under the Streaming Agreement were received by January 2017.

Working capital used \$1.9 million during the nine months ended September 30, 2018, compared to \$11.6 million in the same period in 2017. The working capital changes included a \$9.9 million decrease in accounts payable and accrued liabilities, offset by a \$7.7 million decrease in inventory, \$0.3 million decrease in prepaids and other and a \$0.1 million decrease in accounts receivable.

Investing activities used \$30.9 million during the nine months ended September 30, 2018, which included \$16.4 million on the development of Wassa Underground, \$6.6 million on the development of Prestea Underground, \$5.5 million on exploration drilling and \$2.4 million on equipment purchases.

Financing activities provided \$4.3 million during the nine months ended September 30, 2018 compared to \$19.2 million in the same period in 2017. Financing activities included gross proceeds of \$15.0 million from Ecobank Loan III, \$20.0 million from Ecobank Loan IV which was used to repay the \$20.0 million Royal Gold loan, and \$10.7 million principal repayments on other debt.

On October 1, 2018 the Company received \$125.7 million in gross proceeds (net cash of approximately \$125.0 million) from the private placement of common shares to La Mancha.

LIQUIDITY OUTLOOK

As at September 30, 2018, the Company had \$18.4 million in cash and a working capital deficit of \$91.0 million compared to \$27.8 million in cash and a working capital deficit of \$61.6 million at December 31, 2017. The Company has completed the development of Wassa Underground and Prestea Underground, from which the Company expects to generate operating margins in the future. In order to generate cash flow from operations, the Company has to incur mine operating costs, a 5% royalty to the Government of Ghana, reclamation expenditures at the properties it operates and corporate general and administration expenditures.

The Company's debt repayment and servicing obligations are scheduled to be \$11.5 million for the remainder of 2018. Severance payments of approximately \$9.0 million are expected to be paid in the remainder of 2018 as a result of a reduction in surface mining operations at Prestea. At the end of the nine months ended September 30, 2018 the majority of the severance payments

related to the suspension of the Wassa surface mining operation had been completed. In addition, as of October 31, 2018, the Company paid \$11.5 million for the settlement of vested performance share units.

On June 28, 2018, Golden Star (Wassa) Limited ("GWSL"), a subsidiary of Golden Star, closed a \$20.0 million secured loan facility (the "Facility") with Ecobank Ghana Limited. The Company used the Facility to repay in full its existing \$20.0 million medium term loan facility with Royal Gold, Inc. There are no prepayment penalties associated with the Facility. The Facility is repayable within 60 months of initial drawdown. Interest on amounts drawn under the Facility is payable monthly in arrears at an interest rate equal to three month LIBOR plus a spread of 7.5% per annum.

On October 1, 2018 the Company completed a \$125.7 million strategic investment by La Mancha, through a private placement of common shares.

The table below provides a breakdown of the expected use of proceeds from La Mancha's \$125.7 million strategic investment (net cash of approximately \$125.0 million). Golden Star has presented the use of proceeds as a series of ranges as the size of the exploration budget is dependent on the success of the exploration program at each asset and this will impact the size of the development and expansion budget and the corporate budget. Golden Star expects to use the proceeds from La Mancha's strategic investment on its organic projects between the fourth quarter of 2018 and the end of 2020, whereas any external growth opportunities will be assessed on a case-by-case basis as they arise.

(Stated in millions of U.S dollars)	Range	
Exploration	\$ 20.0	\$ 35.0
Development and expansion	30.0	75.0
General corporate purposes	75.0	15.0
Total (Net Cash)	\$ 125.0	\$ 125.0

Based on the Company's cash balance together with the operating cash flow that the Company anticipates generating and the proceeds of the private placement, the Company expects to have sufficient cash available to support its operations and mandatory expenditures for the next twelve months.

TABLE OF CONTRACTUAL OBLIGATIONS

As at September 30, 2018 the Company is committed to the following:

(Stated in thousands of U.S dollars)	Payment due by period				
	Less than 1 Year	1 to 3 years	4 to 5 years	More than 5 Years	Total
Accounts payable and accrued liabilities	\$ 85,499	\$ —	\$ —	\$ —	\$ 85,499
Debt ¹	27,371	74,472	12,000	—	113,843
Other liability	19,709	—	—	—	19,709
Interest on long term debt	8,065	11,675	905	—	20,645
Purchase obligations	12,142	—	—	—	12,142
Rehabilitation provisions ²	8,732	33,057	22,054	9,440	73,283
Total	\$ 161,518	\$ 119,204	\$ 34,959	\$ 9,440	\$ 325,121

¹ Includes the outstanding repayment amounts from the 7% Convertible Debentures maturing on August 15, 2021, Ecobank Loan III, Ecobank Loan IV, the finance leases and the vendor agreement.

² Rehabilitation provisions indicates the expected undiscounted cash flows for each period.

RELATED PARTY TRANSACTIONS

There were no material related party transactions for the three and nine months ended September 30, 2018 and 2017 other than compensation of key management personnel which is presented in Note 19 of the condensed interim consolidated financial statements for the three and nine months ended September 30, 2018 and 2017. Key management personnel are defined as members of the Board of Directors and certain senior officers. Compensation of key management personnel are made on terms equivalent to those prevailing in an arm's length transaction.

OFF-BALANCE SHEET ARRANGEMENTS

The Company has no material off-balance sheet arrangements.

NON-GAAP FINANCIAL MEASURES

In this MD&A, we use the terms “cash operating cost”, “cash operating cost per ounce”, “all-in sustaining costs”, “all-in sustaining costs per ounce”, “adjusted net (loss)/income attributable to Golden Star shareholders”, “adjusted (loss)/income per share attributable to Golden Star shareholders”, “cash provided by operations before working capital changes”, and “cash provided by operations before working capital changes per share - basic”.

“Cost of sales excluding depreciation and amortization” as found in the statements of operations includes all mine-site operating costs, including the costs of mining, ore processing, maintenance, work-in-process inventory changes, mine-site overhead as well as production taxes, royalties, severance charges and by-product credits, but excludes exploration costs, property holding costs, corporate office general and administrative expenses, foreign currency gains and losses, gains and losses on asset sales, interest expense, gains and losses on derivatives, gains and losses on investments and income tax expense/benefit.

“Cash operating cost” for a period is equal to “cost of sales excluding depreciation and amortization” for the period less royalties, the cash component of metals inventory net realizable value adjustments, materials and supplies write-off and severance charges, and “cash operating cost per ounce” is that amount divided by the number of ounces of gold sold (excluding pre-commercial production ounces sold) during the period. We use cash operating cost per ounce as a key operating metric. We monitor this measure monthly, comparing each month's values to prior periods' values to detect trends that may indicate increases or decreases in operating efficiencies. We provide this measure to investors to allow them to also monitor operational efficiencies of the Company's mines. We calculate this measure for both individual operating units and on a consolidated basis. Since cash operating costs do not incorporate revenues, changes in working capital and non-operating cash costs, they are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Changes in numerous factors including, but not limited to, mining rates, milling rates, ore grade, gold recovery, costs of labor, consumables and mine site general and administrative activities can cause these measures to increase or decrease. We believe that these measures are similar to the measures of other gold mining companies, but may not be comparable to similarly titled measures in every instance.

“All-in sustaining costs” commences with cash operating costs and then adds the cash component of metals inventory net realizable value adjustments, royalties, sustaining capital expenditures, corporate general and administrative costs (excluding share-based compensation expenses), and accretion of rehabilitation provision. “All-in sustaining costs per ounce” is that amount divided by the number of ounces of gold sold (excluding pre-commercial production ounces sold) during the period. This measure seeks to represent the total costs of producing gold from current operations, and therefore it does not include capital expenditures attributable to projects or mine expansions, exploration and evaluation costs attributable to growth projects, income tax payments, interest costs or dividend payments. Consequently, this measure is not representative of all of the Company's cash expenditures. In addition, the calculation of all-in sustaining costs does not include depreciation expense as it does not reflect the impact of expenditures incurred in prior periods. Therefore, it is not indicative of the Company's overall profitability. Share-based compensation expenses are also excluded from the calculation of all-in sustaining costs as the Company believes that such expenses may not be representative of the actual payout on equity and liability based awards.

The Company believes that “all-in sustaining costs” will better meet the needs of analysts, investors and other stakeholders of the Company in understanding the costs associated with producing gold, understanding the economics of gold mining, assessing the operating performance and also the Company's ability to generate free cash flow from current operations and to generate free cash flow on an overall Company basis. Due to the capital intensive nature of the industry and the long useful lives over which these items are depreciated, there can be a disconnect between net earnings calculated in accordance with IFRS and the amount of free cash flow that is being generated by a mine. In the current market environment for gold mining equities, many investors and analysts are more focused on the ability of gold mining companies to generate free cash flow from current operations, and consequently the Company believes these measures are useful non-IFRS operating metrics (“non-GAAP measures”) and supplement the IFRS disclosures made by the Company. These measures are not representative of all of Golden Star's cash expenditures as they do not include income tax payments or interest costs. Non-GAAP measures are intended to provide additional information only and do not have standardized definitions under IFRS and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. These measures are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. The table below reconciles these non-GAAP measures to the most directly comparable IFRS measures and, where applicable, previous periods have been recalculated to conform to the current definition.

The table below reconciles consolidated cost of sales excluding depreciation and amortization to cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
(Stated in thousands of U.S dollars except cost per ounce data)				
Cost of sales excluding depreciation and amortization	\$ 48,873	\$ 53,502	\$ 166,164	\$ 160,081
Depreciation and amortization	8,659	7,365	26,115	24,697
Cost of sales	<u>\$ 57,532</u>	<u>\$ 60,867</u>	<u>\$ 192,279</u>	<u>\$ 184,778</u>
Cost of sales excluding depreciation and amortization	\$ 48,873	\$ 53,502	\$ 166,164	\$ 160,081
Severance charges	(6)	(228)	(4,976)	(1,182)
Royalties	(3,463)	(4,934)	(11,293)	(12,675)
Inventory net realizable value adjustment and write-off	(445)	(606)	(4,785)	(2,410)
Cash operating costs	<u>\$ 44,959</u>	<u>\$ 47,734</u>	<u>\$ 145,110</u>	<u>\$ 143,814</u>
Royalties	3,463	4,934	11,293	12,675
Inventory net realizable value adjustment and write-off	445	606	4,785	2,410
Accretion of rehabilitation provision	173	311	518	933
General and administrative costs, excluding share-based compensation	4,002	3,205	11,438	9,708
Sustaining capital expenditures	4,271	3,599	14,762	8,418
All-in sustaining costs	<u>\$ 57,313</u>	<u>\$ 60,389</u>	<u>\$ 187,906</u>	<u>\$ 177,958</u>
Ounces sold ¹	57,659	71,175	174,529	192,598
Cost of sales per ounce	\$ 998	\$ 855	\$ 1,102	\$ 959
Cash operating cost per ounce	\$ 780	\$ 671	\$ 831	\$ 747
All-in sustaining cost per ounce	\$ 994	\$ 848	\$ 1,077	\$ 924

¹ Ounces sold used in the calculation of cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce excludes pre-commercial production ounces sold at Prestea Underground during the period.

The tables below reconcile cost of sales excluding depreciation and amortization to cash operating cost per ounce for each of the operating mines:

	Three Months Ended September 30, 2018		
	Wassa	Prestea	Combined
(Stated in thousands of U.S dollars except cost per ounce data)			
Cost of sales excluding depreciation and amortization	\$ 26,005	\$ 22,868	\$ 48,873
Depreciation and amortization	5,284	3,375	8,659
Cost of sales	<u>\$ 31,289</u>	<u>\$ 26,243</u>	<u>\$ 57,532</u>
Cost of sales excluding depreciation and amortization	\$ 26,005	\$ 22,868	\$ 48,873
Severance charges	—	(6)	(6)
Royalties	(2,309)	(1,154)	(3,463)
Inventory net realizable value adjustment and write-off	(232)	(213)	(445)
Cash operating costs	<u>\$ 23,464</u>	<u>\$ 21,495</u>	<u>\$ 44,959</u>
Ounces sold	38,295	19,364	57,659
Cost of sales per ounce	\$ 817	\$ 1,355	\$ 998
Cash operating cost per ounce	\$ 613	\$ 1,110	\$ 780

	Nine Months Ended September 30, 2018		
	Wassa	Prestea	Combined
(Stated in thousands of U.S dollars except cost per ounce data)			
Cost of sales excluding depreciation and amortization	\$ 86,764	\$ 79,400	\$ 166,164
Depreciation and amortization	16,473	9,642	26,115
Cost of sales	<u>\$ 103,237</u>	<u>\$ 89,042</u>	<u>\$ 192,279</u>
Cost of sales excluding depreciation and amortization	\$ 86,764	\$ 79,400	\$ 166,164
Severance charges	(4,970)	(6)	(4,976)
Royalties	(7,192)	(4,101)	(11,293)
Inventory net realizable value adjustment and write-off	(3,335)	(1,450)	(4,785)
Cash operating costs	<u>\$ 71,267</u>	<u>\$ 73,843</u>	<u>\$ 145,110</u>
Ounces sold ¹	112,397	62,132	174,529
Cost of sales per ounce	\$ 919	\$ 1,433	\$ 1,102
Cash operating cost per ounce	\$ 634	\$ 1,188	\$ 831

¹ Ounces sold used in the calculation of cost of sales per ounce and cash operating cost per ounce excludes 2,049 pre-commercial production ounces sold at Prestea Underground in January 2018.

	Three Months Ended September 30, 2017		
	Wassa	Prestea	Combined
(Stated in thousands of U.S dollars except cost per ounce data)			
Cost of sales excluding depreciation and amortization	\$ 30,161	\$ 23,341	\$ 53,502
Depreciation and amortization	4,481	2,884	7,365
Cost of sales	<u>\$ 34,642</u>	<u>\$ 26,225</u>	<u>\$ 60,867</u>
Cost of sales excluding depreciation and amortization	\$ 30,161	\$ 23,341	\$ 53,502
Severance charges	(145)	(83)	(228)
Royalties	(2,033)	(2,901)	(4,934)
Metals inventory net realizable value adjustment	(606)	—	(606)
Cash operating costs	<u>\$ 27,377</u>	<u>\$ 20,357</u>	<u>\$ 47,734</u>
Ounces sold ¹	31,999	39,176	71,175
Cost of sales per ounce	\$ 1,083	\$ 669	\$ 855
Cash operating cost per ounce	\$ 856	\$ 520	\$ 671

	Nine Months Ended September 30, 2017		
	Wassa	Prestea	Combined
(Stated in thousands of U.S dollars except cost per ounce data)			
Cost of sales excluding depreciation and amortization	\$ 97,919	\$ 62,162	\$ 160,081
Depreciation and amortization	14,612	10,085	24,697
Cost of sales	<u>\$ 112,531</u>	<u>\$ 72,247</u>	<u>\$ 184,778</u>
Cost of sales excluding depreciation and amortization	\$ 97,919	\$ 62,162	\$ 160,081
Severance charges	(1,099)	(83)	(1,182)
Royalties	(5,970)	(6,705)	(12,675)
Metals inventory net realizable value adjustment	(2,410)	—	(2,410)
Cash operating costs	<u>\$ 88,440</u>	<u>\$ 55,374</u>	<u>\$ 143,814</u>
Ounces sold ¹	95,515	97,083	192,598
Cost of sales per ounce	\$ 1,178	\$ 744	\$ 959
Cash operating cost per ounce	\$ 926	\$ 570	\$ 747

¹ Ounces sold used in the calculation of cost of sales per ounce and cash operating cost per ounce excludes pre-commercial production ounces sold at Prestea Underground during the period.

“Cash provided by operations before working capital changes” is calculated by subtracting the “changes in working capital” from “net cash provided by operating activities” as found in the statements of cash flows. “Cash provided by operations before working capital changes per share - basic” is “Cash provided by operations before working capital changes” divided by the basic weighted average number of shares outstanding for the period.

We use cash operating cost per ounce and cash provided by operations before working capital changes as key operating metrics. We monitor these measures monthly, comparing each month's values to the values in prior periods to detect trends that may indicate increases or decreases in operating efficiencies. These measures are also compared against budget to alert management of trends that may cause actual results to deviate from planned operational results. We provide these measures to investors to allow them to also monitor operational efficiencies of the mines owned by the Company.

Cash operating cost per ounce and cash provided by operations before working capital changes should be considered as non-GAAP financial measures as defined in the Canadian securities laws and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. There are material limitations associated with the use of such

non-GAAP measures. Since these measures do not incorporate revenues, changes in working capital and non-operating cash costs, they are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Changes in numerous factors including, but not limited to, mining rates, milling rates, ore grade, gold recovery, costs of labor, consumables and mine site general and administrative activities can cause these measures to increase or decrease. We believe that these measures are similar to the measures of other gold mining companies, but may not be comparable to similarly titled measures in every instance.

Adjusted net income attributable to Golden Star shareholders

The table below shows the reconciliation of net (loss)/income attributable to Golden Star shareholders to adjusted net income attributable to Golden Star shareholders and adjusted income per share attributable to Golden Star shareholders:

(Stated in thousands of U.S dollars except per share data)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net (loss)/income attributable to Golden Star shareholders	\$ (3,178)	\$ 12,117	\$ (8,805)	\$ 26,170
Add back/(deduct):				
Share-based compensation expenses	2,164	4,059	2,746	7,501
Loss/(gain) on fair value of financial instruments	629	3,446	(3,512)	(3,959)
Loss on conversion of 7% Convertible Debentures	—	—	—	165
Severance charges	6	228	4,976	1,182
Gain on reduction of asset retirement obligations	(384)	—	(1,505)	—
Income tax expense on previously unrecognized deferred tax asset	4,151	—	10,825	—
	3,388	19,850	4,725	31,059
Adjustments attributable to non-controlling interest	(377)	(23)	(1,430)	(118)
Adjusted net income attributable to Golden Star shareholders	\$ 3,011	\$ 19,827	\$ 3,295	\$ 30,941
Adjusted income per share attributable to Golden Star shareholders - basic	\$ 0.01	\$ 0.05	\$ 0.01	\$ 0.08
Weighted average shares outstanding - basic (millions)	380.8	378.0	380.9	371.2

The Company uses “Adjusted net income attributable to Golden Star shareholders” for its own internal purposes. Management’s internal budgets and forecasts and public guidance do not reflect the items which have been excluded from the determination of adjusted net income attributable to Golden Star Shareholders. Consequently, the presentation of adjusted net income attributable to Golden Star Shareholders enables shareholders to better understand the underlying operating performance of our core mining business through the eyes of management. Management periodically evaluates the components of adjusted net earnings based on an internal assessment of performance measures that are useful for evaluating the operating performance of our business and a review of non-GAAP measures used by mining industry analysts and other mining companies.

“Adjusted net income attributable to Golden Star shareholders” is calculated by adjusting net income attributable to Golden Star shareholders for share-based compensation expenses, gain on fair value of financial instruments, loss on conversion of 7% Convertible Debentures, severance charges, gain on reduction of asset retirement obligations and income tax expense on previously unrecognized deferred tax assets. “Adjusted income per share attributable to Golden Star shareholders” for the period is “Adjusted net income attributable to Golden Star shareholders” divided by the weighted average number of shares outstanding using the basic method of earnings per share.

Adjusted net income attributable to Golden Star shareholders and adjusted income per share attributable to Golden Star shareholders should be considered as non-GAAP financial measures as defined in the Canadian securities laws and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with GAAP. There are material limitations associated with the use of such non-GAAP measures. Since these measures do not incorporate all non-cash expense and income items, changes in working capital and non-operating cash costs, they are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Changes in numerous factors including, but not limited to, our share price, risk free interest rates, gold prices, mining rates, milling rates, ore grade, gold recovery, costs of labor, consumables and mine site general and administrative activities can cause these measures to increase or decrease. The Company believes that these measures are similar to the measures of other gold mining companies, but may not be comparable to similarly titled measures in every instance.

OUTSTANDING SHARE DATA

As of October 29, 2018, pre-Consolidation there were 544,035,055 common shares of the Company issued and outstanding, 17,550,783 stock options outstanding, 5,425,987 deferred share units outstanding, 4,093,910 share units of 2017 PRSUs outstanding and 7% Convertible Debentures which are convertible into an aggregate of 57,220,000 common shares.

As of October 31, 2018, post-Consolidation there were approximately 108,807,009 common shares of the Company issued and outstanding, 3,510,157 stock options outstanding, 1,085,197 deferred share units outstanding, 818,782 share units of 2017 PRSUs outstanding and 7% Convertible Debentures which are convertible into an aggregate of 11,444,000 common shares.

CRITICAL ACCOUNTING JUDGMENTS, ESTIMATES AND ASSUMPTIONS

On July 28, 2015, the Company through its subsidiary Caystar Finance Co. completed a \$130.0 million gold purchase and sale agreement ("Streaming Agreement") with RGLD, a wholly-owned subsidiary of RGI. The Streaming Agreement was subsequently amended on December 30, 2015 to provide an additional \$15.0 million of streaming advance payment. As discussed in Note 3A of the three and nine months ended September 30, 2018 condensed interim consolidated financial statements, there is a variable component involved in accounting for the deferred revenue associated with the Streaming Agreement. This variability is subject to retroactive adjustment when there is a significant change in the timing and quantity of ounces to be delivered over the term of the Streaming Agreement. Significant judgment is required in determining the expected delivery of ounces over the term of the Streaming Agreement and their associated cash flows. In undertaking this review management of the Company is required to make significant estimates of, amongst other things, discount rates, future production volumes, metal prices and reserve and resource quantities. These estimates are subject to various risks and uncertainties which may ultimately have an effect on the deferred revenue recorded related to the Streaming Agreement. There were no retroactive adjustments recorded in the three and nine months ended September 30, 2018 with the exception of the initial adjustment to adopt IFRS 15 recorded in the first quarter of 2018 as discussed in Note 3A of the three and nine months ended September 30, 2018 condensed interim consolidated financial statements.

The judgments, estimates and assumptions discussed above reflect updates from the 2017 annual financial statements. For a full list of judgments, estimates and assumptions please refer to Note 4 of the 2017 annual financial statements.

CHANGES IN ACCOUNTING POLICIES

The Company has adopted the following new and revised standards, effective January 1, 2018. These changes were made in accordance with the applicable transitional provisions.

IFRS 2 Share-based payments was amended to address (i) certain issues related to the accounting for cash settled awards, and (ii) the accounting for equity settled awards that include a "net settlement" feature in respect of employee withholding taxes effective for years beginning on or after January 1, 2018. There was no impact to the financial statements on adoption of this standard.

IFRS 9 Financial Instruments was issued in July 2014 and includes (i) a third measurement category for financial assets - fair value through other comprehensive income; (ii) a single, forward-looking "expected loss" impairment model; and (iii) a mandatory effective date of annual periods beginning on or after January 1, 2018. On adoption of this standard, there was no accounting impact to the financial statements and there were no changes in the carrying values of any of the Company's financial assets.

IFRS 15 Revenue from Contracts with Customers was amended to clarify how to (i) identify a performance obligation in a contract; (ii) determine whether a company is a principal or an agent; and (iii) determine whether the revenue from granting a license should be recognized at a point in time or over time. In addition to the clarifications, the amendments include two additional reliefs to reduce cost and complexity for a company when it first applies the new standard. The amendments have the same effective date as the standard, which is January 1, 2018.

On January 1, 2018, the Company adopted the requirements of IFRS 15 Revenue from Contracts with Customers. As a result, the Company updated its accounting policy for deferred revenue to align with the requirements of IFRS 15. The Company elected to use the modified retroactive approach to initially adopt IFRS 15 which resulted in recognizing the cumulative effect of prior period amounts as an adjustment to the opening balance sheet through opening deficit on January 1, 2018.

Under IFRS 15, deferred revenue consists of: 1) initial cash payments received by the Company for future delivery of payable gold under the terms of the Company's Streaming Agreement as defined in Note 10, Deferred Revenue, and 2) a significant financing component of the Company's Streaming Agreement. Deferred revenue is increased as interest expense is recognized based on the implicit interest rate of the discounted cash flows arising from the expected delivery of ounces under the Company's Streaming Agreement.

The amount by which the deferred revenue balance is reduced and recognized into revenue is based on a rate per ounce of gold delivered under the stream. This rate per ounce of gold delivered relating to the payments received by the Company is based on

the remaining deferred revenue balance divided by the ounces that are expected to be delivered over the term of the Streaming Agreement.

As the Company's Streaming Agreement contains a variable component, IFRS 15 requires that the transaction price be updated and re-allocated on a continuous basis. As a result, the deferred revenue recognized per ounce of gold delivered under the Streaming Agreement will require an adjustment each time there is a significant change in the underlying gold production profile of a mine. Should a change in the transaction price be necessary, a retroactive adjustment to revenue will be made in the period in which the change occurs, to reflect the updated production profile expected to be delivered under the Streaming Agreement.

The impact of the initial adoption of IFRS 15 was \$19.0 million. The adjustment was recorded as an increase to deferred revenue with a corresponding increase to opening deficit.

The changes in accounting policies and standards, interpretations and amendments not yet effective are disclosed in Note 3 of the condensed interim consolidated financial statements for the three and nine months ended September 30, 2018.

FINANCIAL INSTRUMENTS

(Stated in thousands of U.S dollars)	Fair value at September 30, 2018	Basis of measurement	Associated risks
Cash and cash equivalents	\$ 18,359	Amortized cost	Interest/Credit/Foreign exchange
Accounts receivable	3,371	Amortized cost	Foreign exchange/Credit
Trade and other payables	76,646	Amortized cost	Foreign exchange/Interest
Finance leases	2,125	Amortized cost	Interest
Ecobank Loan III	21,300	Amortized cost	Interest
Ecobank Loan IV	18,682	Amortized cost	Interest
7% Convertible Debentures	44,057	Amortized cost	Interest
Vendor agreement	18,639	Amortized cost	Interest/Foreign exchange
Long term derivative liability	7,451	Fair value through profit and loss	Market price

Amortized cost - Cash and cash equivalents, accounts receivable, trade and other payables, the 7% Convertible Debentures, the Ecobank Loan III, the Ecobank Loan IV, the vendor agreement and the finance leases approximate their carrying values as the interest rates are comparable to current market rates. Carrying value of the vendor agreement has been discounted to reflect its fair value.

Fair value through profit or loss - The fair value of the long term derivative liability relating to the 7% Convertible Debentures is estimated using a convertible note valuation model. For the nine months ended September 30, 2018, a total gain of \$3.5 million was recorded to the statement of operations.

DISCLOSURES ABOUT RISKS

The Company's exposure to significant risks include, but are not limited to, the following risks: change in interest rates on our debt, change in foreign currency exchange rates, commodity price fluctuations, liquidity risk and credit risk. In recognition of the Company's outstanding accounts payable, the Company cannot guarantee that vendors or suppliers will not suspend or deny delivery of products or services to the Company. For a complete discussion of the risks, refer to the Company's Annual Information Form for the year ended December 31, 2017 available on the SEDAR website at www.sedar.com.

CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

The Company's management, with the participation of its President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures. Based upon the results of that evaluation, the Company's President and Chief Executive Officer and Executive Vice President and Chief Financial Officer have concluded that, as of September 30, 2018, the Company's disclosure controls and procedures were effective to provide reasonable assurance that the information required to be disclosed by the Company in reports it files is recorded, processed, summarized and reported, within the appropriate time periods and is accumulated and communicated to management, including the President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

The Company's management, with the participation of its President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, are responsible for establishing and maintaining adequate internal control over financial reporting. Under the supervision of the President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, the Company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. The Company's internal control over financial reporting includes policies and procedures that:

- pertain to the maintenance of records that accurately and fairly reflect, in reasonable detail, the transactions and dispositions of assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS and that the Company's receipts and expenditures are made only in accordance with authorizations of management and the Company's directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the Company's consolidated financial statements.

The Company's management, including the President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, believes that any disclosure controls and procedures or internal control over financial reporting, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, they cannot provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been prevented or detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by unauthorized override of the control. The design of any control system also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Accordingly, because of the inherent limitations in a cost effective control system, misstatements due to error or fraud may occur and not be detected.

Changes in Internal Control Over Financial Reporting

There has been no change in the Company's design of internal controls and procedures over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting during the period covered by this MD&A.

RISK FACTORS AND ADDITIONAL INFORMATION

Additional information regarding the Company, including the Company's Annual Information Form for the year ended December 31, 2017, is available under the Company's profile on SEDAR at www.sedar.com.